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Analytical Data Package Prepared For

Fluor Hanford



Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: **STLRL**

Data Package Contains _____ Pages

Report No.: **33216**

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
W04998	R06-033	B1KJ59	J6H290284-1	JDEML1AA	9JDEML10	6242176
		B1KJ60	J6H290284-2	JDEMWF1AA	9JDEMWF10	6242176
		B1KJ61	J6H290284-3	JDEM31AA	9JDEM310	6242176
		B1KJ62	J6H290284-4	JDEM51AA	9JDEM510	6242176
		B1KJ63	J6H290284-5	JDEM71AA	9JDEM710	6242176
		B1KJ64	J6H290284-6	JDEM81AA	9JDEM810	6242176
		B1KJ65	J6H290284-7	JDEM91AA	9JDEM910	6242176
		B1KJ66	J6H290284-8	JDENC1AA	9JDENC10	6242176
		B1KJ67	J6H290284-9	JDENE1AA	9JDENE10	6242176
		B1KJ68	J6H290284-10	JDENF1AA	9JDENF10	6242176
	R06-033	B1KJ69	J6H290284-11	JDENG1AA	9JDENG10	6242176
		B1KJ70	J6H290284-12	JDENJ1AA	9JDENJ10	6242176
		B1KJ71	J6H290284-13	JDENL1AA	9JDENL10	6242179
		B1KJ72	J6H290284-14	JDENM1AA	9JDENM10	6242179
		B1KJ73	J6H290284-15	JDENP1AA	9JDENP10	6242179
		B1KJ74	J6H290284-16	JDENR1AA	9JDENR10	6242179
		B1KJ75	J6H290284-17	JDENV1AA	9JDENV10	6242179
		B1KJ76	J6H290284-18	JDEN11AA	9JDEN110	6242179
		B1KJ77	J6H290284-19	JDEN41AA	9JDEN410	6242179
		B1KJ78	J6H290284-20	JDEN61AA	9JDEN610	6242179
	R06-033	B1KJ79	J6H290284-21	JDEN71AA	9JDEN710	6242179
		B1KJ80	J6H290284-22	JDEN91AA	9JDEN910	6242179
		B1KJ81	J6H290284-23	JDEPD1AA	9JDEPD10	6242179
		B1KJJ2	J6H290284-24	JDEPF1AA	9JDEPF10	6242179

SEVERN
TRENT

STL

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Richland, WA 99354

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Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

September 12, 2006

Attention: John Trechter

SAF Number : R06-033
Date SDG Closed : August 29, 2006
Number of Samples : Twenty Four (24)
Sample Type : Other Solid
SDG Number : W04998
Data Deliverable : 7 / 15-Day Summary



CASE NARRATIVE

I. Introduction

On August 29, 2006, twenty four other solid samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned to lot J6H290284 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1KJ59	JDEML	OTHER SOLID	8/29/06
B1KJ60	JDEMW	OTHER SOLID	8/29/06
B1KJ61	JDEM3	OTHER SOLID	8/29/06
B1KJ62	JDEM5	OTHER SOLID	8/29/06
B1KJ63	JDEM7	OTHER SOLID	8/29/06
B1KJ64	JDEM8	OTHER SOLID	8/29/06
B1KJ65	JDEM9	OTHER SOLID	8/29/06
B1KJ66	JDENC	OTHER SOLID	8/29/06
B1KJ67	JDENE	OTHER SOLID	8/29/06
B1KJ68	JDENF	OTHER SOLID	8/29/06
B1KJ69	JDENG	OTHER SOLID	8/29/06
B1KJ70	JDENJ	OTHER SOLID	8/29/06
B1KJ71	JDENL	OTHER SOLID	8/29/06

Fluor Hanford
September 12, 2006

B1KJ72	JDENM	OTHER SOLID	8/29/06
B1KJ73	JDENP	OTHER SOLID	8/29/06
B1KJ74	JDENR	OTHER SOLID	8/29/06
B1KJ75	JDENV	OTHER SOLID	8/29/06
B1KJ76	JDEN1	OTHER SOLID	8/29/06
B1KJ77	JDEN4	OTHER SOLID	8/29/06
B1KJ78	JDEN6	OTHER SOLID	8/29/06
B1KJ79	JDEN7	OTHER SOLID	8/29/06
B1KJ80	JDEN9	OTHER SOLID	8/29/06
B1KJ81	JDEPD	OTHER SOLID	8/29/06
B1KJ2	JDEPF	OTHER SOLID	8/29/06

II. Sample Receipt

The samples were received in good condition. The second relinquished to field on chain of custodices R06-033-005, R06-033-006, R06-033-007, R06-033-008 and R06-033-010 were signed on 8/30/06 per email from John Trechter dated 8/30/06. This email is included in this report and is located behind the chain of custody.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Liquid Scintillation Counting
Selenium-79 by method RICH-RC-5043

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

Fluor Hanford
September 12, 2006

V. Comments

Gas Proportional Counting
Selenium-79 by method RICH-RC-5043

Batch 6242176

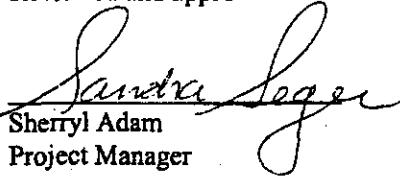
There is currently not an available standard for Selenium 79 and an LCS was not analyzed. The batch blank, sample and sample duplicate (B1KJ59) results are within contractual requirements.

Batch 6242179

There is currently not an available standard for Selenium 79 and an LCS was not analyzed. The batch blank, sample and sample duplicate (B1KJ71) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


for _____
Sherryl Adam
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,...)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c - Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c</i> the <i>combined uncertainty</i> . The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor CRDL (RL)	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt/BkgndCntMin) / SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt/BkgndCntMin) / SCntMin}) + 2.71 / SCntMin) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D)/[\sqrt{(TPUs^2 + TPUsd^2)}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUsd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 12-Sep-06

STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 33216

SDG No: W04998

Client Id Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6242176 SE79_SEP_IE_LSC									
B1KJ59	JDEML1AA	SE-79	5.67E-01 +/- 5.06E-01	U	pCi/g	85%	1.02E+00	1.00E+01	
B1KJ59 DUP	JDEML1AC	SE-79	9.39E-01 +/- 5.25E-01	U	pCi/g	84%	1.03E+00	1.00E+01	49.5
B1KJ60	JDEMW1AA	SE-79	8.16E-02 +/- 4.52E-01	U	pCi/g	89%	9.46E-01	1.00E+01	
B1KJ61	JDEM31AA	SE-79	5.76E-01 +/- 4.96E-01	U	pCi/g	87%	1.00E+00	1.00E+01	
B1KJ62	JDEM51AA	SE-79	4.00E-01 +/- 5.46E-01	U	pCi/g	77%	1.12E+00	1.00E+01	
B1KJ63	JDEM71AA	SE-79	1.25E-01 +/- 5.49E-01	U	pCi/g	74%	1.15E+00	1.00E+01	
B1KJ64	JDEM81AA	SE-79	6.21E-01 +/- 7.52E-01	U	pCi/g	55%	1.54E+00	1.00E+01	
B1KJ65	JDEM91AA	SE-79	4.60E-01 +/- 5.06E-01	U	pCi/g	82%	1.03E+00	1.00E+01	
B1KJ66	JDENC1AA	SE-79	5.23E-01 +/- 5.22E-01	U	pCi/g	81%	1.06E+00	1.00E+01	
B1KJ67	JDENE1AA	SE-79	6.13E-01 +/- 4.22E-01	U	pCi/g	96%	8.41E-01	1.00E+01	
B1KJ68	JDENF1AA	SE-79	3.39E-01 +/- 4.55E-01	U	pCi/g	85%	9.35E-01	1.00E+01	
B1KJ69	JDENG1AA	SE-79	7.78E-01 +/- 5.62E-01	U	pCi/g	78%	1.12E+00	1.00E+01	
B1KJ70	JDENV1AA	SE-79	-6.35E-02 +/- 4.64E-01	U	pCi/g	83%	9.88E-01	1.00E+01	
6242179 SE79_SEP_IE_LSC									
B1KJ71	JDENL1AA	SE-79	-1.02E-01 +/- 5.33E-01	U	pCi/g	74%	1.13E+00	1.00E+01	
B1KJ71 DUP	JDENL1AC	SE-79	-4.80E-01 +/- 5.24E-01	U	pCi/g	73%	1.14E+00	1.00E+01	-127.5
B1KJ72	JDENM1AA	SE-79	-1.91E-01 +/- 6.51E-01	U	pCi/g	60%	1.39E+00	1.00E+01	
B1KJ73	JDENP1AA	SE-79	-1.16E-01 +/- 5.68E-01	U	pCi/g	70%	1.21E+00	1.00E+01	
B1KJ74	JDENR1AA	SE-79	-4.95E-01 +/- 5.18E-01	U	pCi/g	77%	1.13E+00	1.00E+01	
B1KJ75	JDENV1AA	SE-79	-3.31E-01 +/- 5.75E-01	U	pCi/g	68%	1.24E+00	1.00E+01	

STL Richland RPD - Relative Percent Difference.

rptSTLRchSaSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by
mary2 V5.0.1 gamma scan software.
A2002

Sample Results Summary

Date: 12-Sep-06

STL Richland STLRL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 33216**SDG No: W04998**

Client Id Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RPD
6242179 SE79_SEP_IE_LSC									
B1KJ76	JDEN11AA	SE-79	-1.41E-01 +/- 6.01E-01	U	pCi/g	68%	1.28E+00	1.00E+01	
B1KJ77	JDEN41AA	SE-79	-3.49E-01 +/- 6.24E-01	U	pCi/g	62%	1.35E+00	1.00E+01	
B1KJ78	JDEN61AA	SE-79	7.50E-02 +/- 5.34E-01	U	pCi/g	75%	1.12E+00	1.00E+01	
B1KJ79	JDEN71AA	SE-79	3.18E-01 +/- 5.52E-01	U	pCi/g	76%	1.14E+00	1.00E+01	
B1KJ80	JDEN91AA	SE-79	-7.72E-02 +/- 5.30E-01	U	pCi/g	78%	1.13E+00	1.00E+01	
B1KJ81	JDEPD1AA	SE-79	1.73E-02 +/- 6.33E-01	U	pCi/g	61%	1.33E+00	1.00E+01	
B1KJJ2	JDEPF1AA	SE-79	-9.94E-02 +/- 5.25E-01	U	pCi/g	75%	1.12E+00	1.00E+01	

No. of Results: 26

QC Results Summary
STL Richland STLRL
Ordered by Method, Batch No, QC Type.,

Date: 12-Sep-06

Report No.: 33216

SDG No.: W04998

Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
SE79_SEP_IE_LSC									
6242176	BLANK QC								
JDFR81AA	SE-79		6.43E-03 +/- 7.51E-01	U	pCi/g	55%			1.59E+00
SE79_SEP_IE_LSC									
6242179	BLANK QC								
JDFTF1AA	SE-79		3.23E-02 +/- 5.98E-01	U	pCi/g	70%			1.26E+00
No. of Results: 2									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSum U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by
 mary V5.0.1 A2002 gamma scan software.

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:35:00 PM

Lot-Sample No.: J6H290284-1

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ59

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC			Work Order: JDEML1AA	Report DB ID: 9JDEML10						
SE-79	5.67E-01	U	4.4E-01	5.1E-01	1.02E+00 pCi/g	85%	0.56	9/8/06 02:03 p	2.0	G	LSC3
					4.89E-01	1.00E+01	(2.2)				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:42:00 PM

Lot-Sample No.: J6H290284-2

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ60

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC			Work Order: JDEMW1AA		Report DB ID: 9JDEMW10					
SE-79	8.16E-02 U	3.9E-01	4.5E-01	9.46E-01	pCi/g	89%	0.09	9/8/06 03:49 p	2.08	G	LSC3

No. of Results: 1 Comments:

FORM I

Date: 12-Sep-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:55:00 PM

Lot-Sample No.: J6H290284-3

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ61

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDEM31AA		Report DB ID: 9JDEM310					
SE-79	5.76E-01	U	4.3E-01	5.0E-01	1.00E+00	pCi/g	87%	0.58	9/8/06 04:42 p	2.0	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 3:15:00 PM

Lot-Sample No.: J6H290284-4

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ62

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDEM51AA		Report DB ID: 9JDEM510					
SE-79	4.00E-01	U	4.8E-01	5.5E-01	1.12E+00	pCi/g	77%	0.36	9/8/06 05:35 p	2.01	LSC3	G

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:35:00 PM

Lot-Sample No.: J6H290284-5

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ63

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDEM71AA		Report DB ID: 9JDEM710					
SE-79	1.25E-01	U	4.8E-01	5.5E-01	1.15E+00	pCi/g	74%	0.11	9/8/06 06:28 p	2.05	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:30:00 PM

Lot-Sample No.: J6H290284-6

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ64

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDEM81AA		Report DB ID: 9JDEM810					
SE-79	6.21E-01	U	6.5E-01	7.5E-01	1.54E+00	pCi/g	55%	0.4	9/8/06 07:21 p	2.06	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:55:00 PM

Lot-Sample No.: J6H290284-7

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ65

COC No.: R06-033-005

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC			Work Order: JDEM91AA		Report DB ID: 9JDEM910					
SE-79	4.60E-01 U	4.4E-01	5.1E-01	1.03E+00	pCi/g	82%	0.45	9/8/06 08:15 p	2.06	G	LSC3
				4.94E-01		1.00E+01	(1.8)				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:50:00 PM

Lot-Sample No.: J6H290284-8

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ66

COC No.: R06-033-006

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176 SE-79	SE79_SEP_IE_LSC 5.23E-01	U	4.5E-01	5.2E-01	Work Order: JDENC1AA 1.06E+00	pCi/g	Report DB ID: 9JDENC10 81%	0.49	9/8/06 09:08 p (2.)	2.03	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:57:00 PM

Lot-Sample No.: J6H290284-9

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ67

COC No.: R06-033-006

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDENE1AA		Report DB ID: 9JDENE10					
SE-79	6.13E-01	U	3.7E-01	4.2E-01	8.41E-01	pCi/g	96%	0.73	9/8/06 10:01 p	2.15	G	LSC3
					4.03E-01		1.00E+01	(2.9)				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:05:00 PM

Lot-Sample No.: J6H290284-10

Report No. : 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ68

COC No. : R06-033-006

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysts, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDENF1AA		Report DB ID: 9JDENF10					
SE-79	3.39E-01	U	4.0E-01	4.6E-01	9.35E-01	pCi/g	85%	0.36	9/8/06 10:53 p	2.19	G	LSC3
					4.48E-01		1.00E+01	(1.5)				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:05:00 PM

Lot-Sample No.: J6H290284-11

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ69

COC No.: R06-033-006

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total	MDC MDA,	Rpt Unit,	Yield	Rst/MDC,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncert	Prep Date	Size	Size	Detector
Batch: 6242176	SE79_SEP_IE_LSC			Work Order: JDENG1AA		Report DB ID: 9JDENG10					
SE-79	7.78E-01	U	4.9E-01	5.6E-01	1.12E+00 pCi/g	78%	0.69	9/9/06 12:40 a	2.0	G	LSC3
					5.38E-01	1.00E+01	(2.8)				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 3:18:00 PM

Lot-Sample No.: J6H290284-12

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ70

COC No.: R06-033-006

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (\pm s)	Total Uncert(\pm s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sz Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDENJ1AA		Report DB ID: 9JDENJ10					
SE-79	-6.35E-02 U		4.0E-01	4.6E-01	9.88E-01	pCi/g	83%	-0.06	9/9/06 01:33 a	2.13	LSC3	G

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:05:00 PM

Lot-Sample No.: J6H290284-13

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ71

COC No.: R06-033-007

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDENL1AA		Report DB ID: 9JDENL10					
SE-79	-1.02E-01	U	4.6E-01	5.3E-01	1.13E+00	pCi/g	74%	-0.09	9/9/06 04:55 a	2.09	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:18:00 PM

Lot-Sample No.: J6H290284-14

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ72

COC No.: R06-033-007

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDENM1AA		Report DB ID: 9JDENM10					
SE-79	-1.91E-01	U	5.7E-01	6.5E-01	1.39E+00	pCi/g	60%	-0.14	9/9/06 06:41 a	2.1	G	LSC3

No. of Results: 1 Comments:

FORM I

Date: 12-Sep-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:20:00 PM

Lot-Sample No.: J6H290284-15

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ73

COC No.: R06-033-007

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDENP1AA		Report DB ID: 9JDENP10					
SE-79	-1.16E-01	U	4.9E-01	5.7E-01	1.21E+00	pCi/g	70%	-0.1	9/9/06 07:34 a	2.07	G	LSC3
					5.80E-01		1.00E+01	-0.41				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 3:30:00 PM

Lot-Sample No.: J6H290284-16

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ74

COC No.: R06-033-007

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDENR1AA		Report DB ID: 9JDENR10					
SE-79	-4.95E-01	U	4.5E-01	5.2E-01	1.13E+00	pCi/g	77%	-0.44	9/9/06 08:27 a	2.01	G	LSC3
					5.44E-01		1.00E+01	-{1.9}				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:30:00 PM

Lot-Sample No.: J6H290284-17

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ75

COC No.: R06-033-008

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_JE_LSC				Work Order: JDENV1AA		Report DB ID: 9JDENV10					
SE-79	-3.31E-01	U	5.0E-01	5.8E-01	1.24E+00	pCi/g	68%	-0.27	9/9/06 09:20 a	2.09	LSC3	
					5.96E-01		1.00E+01	-(1.1)			G	

No. of Results: 1 Comments:

FORM I

Date: 12-Sep-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:35:00 PM

Lot-Sample No.: J6H290284-18

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ76

COC No.: R06-033-008

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDEN11AA		Report DB ID: 9JDEN110					
SE-79	-1.41E-01	U	5.2E-01	6.0E-01	1.28E+00	pCi/g	68%	-0.11	9/9/06 10:13 a	2.03	LSC3	G

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:46:00 PM

Lot-Sample No.: J6H290284-19

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ77

COC No.: R06-033-008

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC			Work Order: JDEN41AA		Report DB ID: 9JDEN410					
SE-79	-3.49E-01 U	5.4E-01	6.2E-01	1.35E+00	pCi/g	62%	-0.26	9/9/06 11:06 a	2.12	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 3:35:00 PM

Lot-Sample No.: J6H290284-20

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ78

COC No.: R06-033-008

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC			Work Order: JDEN61AA		Report DB ID: 9JDEN610					
SE-79	7.50E-02	U	4.6E-01	5.3E-01	1.12E+00 pCi/g	75%	0.07	9/9/06 11:59 a	2.09	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 2:02:00 PM

Lot-Sample No.: J6H290284-21

Report No. : 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ79

COC No. : R06-033-010

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total	MDC MDA,	Rpt Unit,	Yield	Rst/MDC,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Error (2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncert	Prep Date	Size	Size	Detector
Batch: 6242179	SE79_SEP_IE_LSC			Work Order: JDEN71AA		Report DB ID: 9JDEN710					
SE-79	3.18E-01	U	4.8E-01	5.5E-01	1.14E+00 pCi/g	76%	0.28	9/9/06 12:52 p	2.03	G	LSC3

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 2:05:00 PM

Lot-Sample No.: J6H290284-22

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ80

COC No.: R06-033-010

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count	Total	MDC MDA,	Rpt Unit,	Yield	Rst/MDC,	Analysis,	Total Sa	Aliquot	Primary
		Qual	Uncert(2 s)	Action Lev	Lc	CRDL(RL)	Rst/TotUncert	Prep Date	Size	Size	Detector
Batch: 6242179	SE79_SEP_IE_LSC			Work Order: JDEN91AA		Report DB ID: 9JDEN910					
SE-79	-7.72E-02 U	4.6E-01	5.3E-01	1.13E+00	pCi/g	78%	-0.07	9/9/06 01:45 p	2.0	G	LSC3
				5.40E-01	1.00E+01		-0.29				

No. of Results: 1 Comments:

FORM I
SAMPLE RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 2:07:00 PM

Lot-Sample No.: J6H290284-23

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ81

COC No.: R06-033-010

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Count Qual	Total Error (2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC			Work Order: JDEPD1AA		Report DB ID: 9JDEPD10					
SE-79	1.73E-02	U	5.5E-01	6.3E-01	1.33E+00 pCi/g	61%	0.01	9/9/06 03:30 p	2.18	G	LSC3

No. of Results: 1 Comments:

FORM I

Date: 12-Sep-06

SAMPLE RESULTS

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 3:07:00 PM

Lot-Sample No.: J6H290284-24

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJJ2

COC No.: R06-033-010

Matrix: SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDEPF1AA		Report DB ID: 9JDEPF10					
SE-79	-9.94E-02 U		4.6E-01	5.2E-01	1.12E+00	pCi/g	75%	-0.09	9/9/06 04:24 p	2.11	G	LSC3

No. of Results: 1 Comments:

FORM II

Date: 12-Sep-06

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 12:35:00 PM

Lot-Sample No.: J6H290284-1

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ59 DUP

COC No.: R06-033-005

Matrix: SOLID

Parameter	Result, Orig Rst	Count Qual	Total Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Rst/MDC, Yield	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDEML1AC		Report DB ID: JDEML1CR		Orig Sa DB ID: 9JDEML10		
SE-79	9.39E-01	U	4.5E-01	5.3E-01	1.03E+00	pCi/g	84%	0.91	9/8/06 02:56 p	2.01	LSC3
	5.67E-01	U	RPD 49.5				1.00E+01	(3.6)		G	

No. of Results: 1 Comments:

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV5.0 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

.1 A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

Date: 12-Sep-06

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: W04998

Collection Date: 8/28/2006 1:05:00 PM

Lot-Sample No.: J6H290284-13

Report No.: 33216

Received Date: 8/29/2006 3:15:00 PM

Client Sample ID: B1KJ71 DUP

COC No.: R06-033-007

Matrix: SOLID

Parameter	Result, Orig Rst	Count Qual	Total Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDENL1AC			Report DB ID: JDENL1CR		Orig Sa DB ID: 9JDENL10		
SE-79	-4.60E-01	U	4.6E-01	5.2E-01	1.14E+00	pCi/g	73%	-0.4	9/9/06 05:48 a		2.1	LSC3
	-1.02E-01	U	RPD -127.5					1.00E+01				G

No. of Results: 1 Comments:

STL Richland RPD - Relative Percent Difference.

rptSTLRchDupV5.0 MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

.1 A2002 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II
BLANK RESULTS

Date: 12-Sep-06

Lab Name: STL Richland

SDG: W04998

Matrix: SOLID

Report No.: 33216

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6242176	SE79_SEP_IE_LSC				Work Order: JDFR81AA	Report DB ID: JDFR81AB						
SE-79	6.43E-03	U	6.5E-01	7.5E-01	1.59E+00	pCi/g	55%	0.	9/9/06 02:26 a	2.0	LSC3	
					7.62E-01	1.00E+01		0.02		G		
Batch: 6242179	SE79_SEP_IE_LSC				Work Order: JDFTF1AA	Report DB ID: JDFTF1AB						
SE-79	3.23E-02	U	5.2E-01	6.0E-01	1.26E+00	pCi/g	70%	0.03	9/9/06 05:17 p	2.0	LSC3	
					6.02E-01	1.00E+01		0.11		G		

No. of Results: 2 Comments:

SEVERN
TRENT

STL

Data Review/Verification Checklist
RADIOCHEMISTRY, First Level Review

9/11/2006 2:25:54 PM

Lot No., Due Date: J6H290284; 09/05/2006
Client, Site: 108302; RUS TEDF HANFORD
QC Batch No., Method Test: 6242176; RSE79 Se-79 by LSC
SDG, Matrix: W04998; OTHER SOLID

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

4.2 Were analysis volumes entered correctly?

Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

5.2 Are all required forms filled out?

Yes No N/A

5.3 Was the correct methodology used?

Yes No N/A

5.4 Was transcription checked?

Yes No N/A

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

5.6 Are worksheet entries complete and correct?

Yes No N/A

6.0 Comments on any No response:

Yes No N/A

First Level Review

STL Richland

QAS_RADCALCV4.8.18

STL RICHLAND

Date 9/11/06

Page 1

SEVERN
TRENT

STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number:

6242176
W04998

Review Item	Yes (✓)	No (✗)	N/A (✗)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?		/	
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?	/		
C. Other			
1. Are all Nonconformances included and noted?			/
2. Are all required forms filled out?		/	
3. Was the correct methodology used?			
4. Was transcription checked?		/	
5. Were all calculations checked at a minimum frequency?		/	
6. Were units checked?			

Comments on any "No" response: _____

Second Level Review:

Therrell A. Olson

Date: 9-12-06

Lot No., Due Date: J6H290284; 09/05/2006
Client, Site: 108302; RUS TEDF HANFORD
QC Batch No., Method Test: 6242179; RSE79 Se-79 by LSC
SDG, Matrix: W04998; OTHER SOLID

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

4.2 Were analysis volumes entered correctly?

Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

5.2 Are all required forms filled out?

Yes No N/A

5.3 Was the correct methodology used?

Yes No N/A

5.4 Was transcription checked?

Yes No N/A

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

5.6 Are worksheet entries complete and correct?

Yes No N/A

6.0 Comments on any No response:

Yes No N/A

First Level Review

Date

9/11/06

SEVERN
TRENT

STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

OC Batch Number:

6242179
W04998

Review Item	Yes (✓)	No (✗)	N/A (✓)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?		✓	✓
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other			
1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review

Daryl A. Adam

Date: 9-12-06

STL RICHLAND

Fluor Hanford Inc.

J6H290284

W04998

Due 9.5.06

COLLECTOR
HOGAN, JG
SAMPLING LOCATION
ICE CHEST NO.
SHIPPED TO

PILE # 5

Severn Trent Incorporated, Richland

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KJ75		OS	4-28-06	1330	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ76		OS		1335	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ77		OS		1346	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ78		OS		1535	1X60mL G/P	Selenium-79 {Se-79}	None

CHAIN OF POSSESSION

RElinquished by/Removed from

I.G. HOGAN

DATE/TIME

AUG 29 2006

SIGN/ PRINT NAMES

RECEIVED BY/STORED IN

DURATEK
F. M. HALL

DATE/TIME

1155
8-29-06

RElinquished by/Removed from

DURATEK
F. M. HALL

DATE/TIME

8-29-06

RECEIVED BY/STORED IN

DURATEK
F. M. HALL

DATE/TIME

1515
8/29/06

RElinquished by/Removed from

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

LABORATORY SECTION
FINAL SAMPLE DISPOSITION

RECEIVED BY

DISPOSAL METHOD

TITLE

DATE/TIME

DISPOSED BY

DATE/TIME

* Signed 8-30-06 Because A Plethora of claims & samples being delivered I missed giving claims

PAGE 1 OF 1

DATA TURNAROUND

7 Days /
15 Days

R06-033-008

PRICE CODE 9B

AIR QUALITY

STL RICHLAND

Fluor Hanford Inc.

J6H290284 WO4998 Due 9-5-06

COLLECTOR
HOGAN, JG
SAMPLING LOCATION
PILE # 3
ICE CHEST NO.

SHIPPED TO
Severn Trent Incorporated, Richland

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

COMPANY CONTACT
KLAGES, DL
TELEPHONE NO.
373-6312

PROJECT DESIGNATION
200-UW-1 Operable Unit Spoils Pile Analysis
FIELD LOGBOOK NO.
DTS-SANS-H112

COA
121595ES20

PROJECT COORDINATOR
TRECHTER, JE
SAF NO.
R06-033

METHOD OF SHIPMENT
GOVERNMENT VEHICLE

R06-033-007
PRICE CODE 9B
AIR QUALITY

PAGE 1 OF 1
DATA TURNAROUND
7 Days /
15 Days

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KJ71		OS	8-28-06	1305	1X60mL G/P	Selenium-79 {Se-79}	J DENL
B1KJ72		OS		1318	1X60mL G/P	Selenium-79 {Se-79}	J DENM
B1KJ73		OS		1320	1X60mL G/P	Selenium-79 {Se-79}	J DENP
B1KJ74		OS		1530	1X60mL G/P	Selenium-79 {Se-79}	J DENR

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

DURATEK
RELINQUISHED BY/ REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

J. G. HOGAN

AUG 29 2006 1155

DURATEK

1155

RELINQUISHED BY/ REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

DURATEK
F. M. HOGAN

8-29-06 1515

DURATEK

1515

RELINQUISHED BY/ REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

J. G. HOGAN

8-29-06 1515

J. G. HOGAN

1515

RELINQUISHED BY/ REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

LABORATORY SECTION
FINAL SAMPLE DISPOSITION

RECEIVED BY

DISPOSAL METHOD

TITLE

DATE/TIME

DISPOSED BY

DATE/TIME

* Signed 8-30-06 because a Plethora of chains + samples being delivered I missed signing chains

STL RICHLAND

Fluor Hanford Inc.

COLLECTOR

HOGAN, JG

SAMPLING LOCATION

PILE #2

ICE CHEST NO.

SHIPPED TO

Severn Trent Incorporated, Richland

MATRIX*
 OL = OTHER LIQUID
 OS = OTHER SOLID
 S = SOIL
 W = WATER

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KJ66		OS	8-28-06	1250	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ67		OS		1257	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ68		OS		1305	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ69		OS		1305	1X60mL G/P	Selenium-79 {Se-79}	None
B1KJ70		OS		1518	1X60mL G/P	Selenium-79 {Se-79}	None

CHAIN OF POSSESSION

RELINQUISHED/REMOVED FROM

J. G. HOGAN

DATE/TIME

AUG 29 2006 1155

SIGN/ PRINT NAMES

RECEIVED BY/STORED IN

DURATEK
F. M. HALL

DATE/TIME

8-29-06 1155

SPECIAL INSTRUCTIONS

Reporting format the same as GPP, including QC. STL, send copy of chain of custody (COC) to John Trechter within 24 hours of sample receipt. WSCF will send copies of COC to ^CPP Sample Management mailbox. Duratek shall provide copies of all field documents to Steve Trent. Final report to be uploaded into HEIS. Samples WILL NOT be taken using the multi-increment sampling technique. Analyze normal sample aliquot used for the analyte run. Run gross alpha/beta on equipment blank only.

RELINQUISHED/REMOVED FROM

DURATEK
F. M. HALL

DATE/TIME

8-29-06 1315

RECEIVED BY/STORED IN

S. Smith S. Smith

DATE/TIME

8/29/06 1315

RELINQUISHED/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

LABORATORY SECTION

RECEIVED BY

TITLE

DATE/TIME

FINAL SAMPLE DISPOSITION

DISPOSAL METHOD

DISPOSED BY

DATE/TIME

* signed 8-30-06 because a plethora of chains & samples being delivered I missed signing chains

J61H290284

W04998

Date 9.5.06

Fluor Hanford Inc.

STL RICHLAND

COLLECTOR
HOGAN, JG

SAMPLING LOCATION

PILE # 1

ICE CHEST NO.

SHIPPED TO

Severn Trent Incorporated, Richland

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

SPECIAL HANDLING AND/OR STORAGE

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

R06-033-005

PAGE 1 OF 1

COMPANY CONTACT
KLAGES, DL
TELEPHONE NO.
373-6312PROJECT COORDINATOR
TRECHTER, JE
SAF NO.
R06-033PRICE CODE 98
AIR QUALITYDATA TURNAROUND
7 Days /
15 DaysPROJECT DESIGNATION
200-UW-1 Operable Unit Spoils Pile AnalysisFIELD LOGBOOK NO.
DT3-SAWS-H11Z
OFFSITE PROPERTY NO.COA
12159ES20METHOD OF SHIPMENT
GOVERNMENT VEHICLE
BILL OF LADING/AIR BILL NO.

SAMPLE NO.

LAB ID

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATERSAMPLE DATE
8-28-06SAMPLE TIME
1235NO./TYPE
CONTAINER(S)

Selenium-79 {Se-79}

ANALYSIS

PRESERVATION

B1KJ59

OS

B1KJ60

OS

B1KJ61

OS

B1KJ62

OS

B1KJ63

OS

B1KJ64

OS

B1KJ65

OS

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

1X60mL G/P

SIGN/ PRINT NAMES

RECEIVED BY/STORED IN

DURATEK

E. M. HOGAN

RECEIVED BY/STORED IN

STL RICHLAND

Fluor Hanford Inc.

J64290284

W04998

Due 9-5-06

COLLECTOR HOGAN, JG	COMPANY CONTACT KLAGES, DL	TELEPHONE NO. 373-6312	PROJECT COORDINATOR TRECHTER, JE	PRICE CODE 98	PAGE 1 OF 1
SAMPLING LOCATION PILE #6 ICE CHEST NO.	PROJECT DESIGNATION 200-UW-1 Operable Unit Spoils Pile Analysis		SAF NO. R06-033	AIR QUALITY	DATA TURNAROUND 7 Days / 15 Days
SHIPPED TO Severn Trent Incorporated, Richland	FIELD LOGBOOK NO. DTS-SHHS-H112	COA 12159ES20	METHOD OF SHIPMENT GOVERNMENT VEHICLE		
	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX*

OL = OTHER LIQUID
 OS = OTHER SOLID
 S = SOIL
 W = WATER

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS

Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1KJ79		OS	8-26-06	1402	1X60mL G/P	Selenium-79 {Se-79}	J DENT
B1KJ80		OS		1405	1X60mL G/P	Selenium-79 {Se-79}	J DEN9
B1KJ81		OS		1407	1X60mL G/P	Selenium-79 {Se-79}	J DEPD
B1KJ2		OS		1507	1X60mL G/P	Selenium-79 {Se-79}	J DEPF

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

RELINQUISHED BY/REMOVED FROM

J. G. HOGAN

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

1155

8-29-06

DURATEK

F. M. HALL

RELINQUISHED BY/REMOVED FROM

DURATEK

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

1515

F. M. HALL

Smith

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

Reporting format the same as GPP, including QC. STL, send copy of chain of custody (COC) to John Trechter within 24 hours of sample receipt. WSCF will send copies of COC to ^CPP Sample Management mailbox. Duratek shall provide copies of all field documents to Steve Trent. Final report to be uploaded into HEIS. Samples WILL NOT be taken using the multi-Increment sampling technique. Analyze normal sample aliquot used for the analyte run. Run gross alpha/beta on equipment blank only.

RELINQUISHED BY/REMOVED FROM

DATE/TIME

RECEIVED BY/STORED IN

DATE/TIME

LABORATORY SECTION

RECEIVED BY

TITLE

DATE/TIME

FINAL SAMPLE DISPOSITION

DISPOSAL METHOD

DISPOSED BY

DATE/TIME

4 Signed 8-30-06 because A plethora of containers or samples being delivered I missed signing chains

Seger, Sandra

From: Seger, Sandra
Sent: Wednesday, August 30, 2006 1:43 PM
To: 'Treichter, John E Jr.'
Cc: Adam, Sherryl
Subject: RE: W04998 COCs

John,

The QC manager has spoke with the sample receiving personnel regarding this issue.

Sandra

From: Trechter, John E Jr. [mailto:John_E_Jr._Treichter@RL.gov]
Sent: Wednesday, August 30, 2006 9:54 AM
To: Seger, Sandra; Hogan, James G
Cc: Klages, Deanna L
Subject: FW: W04998 COCs
Importance: High

Sandra,

It should be a policy at your facility to not accept samples that have not been properly relinquished to you as indicated on the chain of custody. Since chains of custody are legal records, signatures regarding receiving and relinquishing samples are absolutely required.

Jim,

Ditto. Please have the individual that delivered the samples go back to STL and properly sign the chains with the date and time that he signs them, and provide appropriate comments on the chain explaining what happened. This will be necessary since the time of his signature will not match the STL receiving signature. I think this is the best way to handle this.

Thanks

John Trechter
Fluor Hanford

From: Seger, Sandra [mailto:SSeger@stl-inc.com]
Sent: Wednesday, August 30, 2006 8:26 AM
To: Trechter, John E Jr.
Subject: W04998 COCs

<<W04998.PDF>>

John,

The relinquished by signature is missing on COCs R06-033-005, 006, 007, 008 & 010.

Sandra

Confidentiality Notice: The information contained in this message is intended only for the use of the addressee, and may be confidential and/or privileged. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately.

SEVERN
TRENT

STL

Sample Check-in List

Date/Time Received: 8-29-06 15:15

Client: RUS SDG #: 1D04998 NA [] SAF #: R06-033 NA []

Work Order Number: J6H290284 Chain of Custody # R06-033-005, 006, 007,

Shipping Container ID: N/A Air Bill # N/A 008, 010

1. Custody Seals on shipping container intact? NA [] Yes [] No []
2. Custody Seals dated and signed? NA [] Yes [] No []
3. Chain of Custody record present? Yes [] No []
4. Cooler temperature: NA S: Vermiculite/packing materials is NA Wet [] Dry []
6. Number of samples in shipping container: 24
7. Sample holding times exceeded? NA [] Yes [] No []
8. Samples have:
 tape hazard labels
 custody seals appropriate samples labels
9. Samples are:
 in good condition leaking
 broken have air bubbles
(Only for samples requiring head space)
10. Sample pH taken? Soil NA [] pH<2 [] pH>2 [] adjusted pH []
11. Sample Location, Sample Collector Listed? * Yes [] No []
*For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? SKS 8/30/06 Yes [] No []
13. Description of anomalies (include sample numbers): NA See Email dated
8/30/06 regarding CDC Signatures SKS 8/30/06

Sample Custodian: S. Smith Date: 8-29-06 15:15

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____

9/5/2006 11:02:00 AM

108302, Fluor Hanford Inc
Management Federal Servi

, Waste

AnalyDueDate: 09/05/2006

W04998

Sample Preparation/Analysis

Balance Id:1120373922

CW Se-79 PrpRC5013, SepRC5043
TM Selenium-79 by Liquid Scint
SI CLIENT: HANFORD

Pipet #: _____

Batch: 6242176 OTHER SOLID pCi/g
SEQ Batch, Test: None

PM, Quote: SA , 27045

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

PRIORITY

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 JDEML-1-AA J6H290284-1-SAMP	2.00g,in		SETA0131 08/25/06						
08/28/2006 12:35	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
2 JDEML-1-AC-X J6H290284-1-DUP	2.01g,in		SETA0132 08/25/06						Beta:
08/28/2006 12:35	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
3 JDEMW-1-AA J6H290284-2-SAMP	2.08g,in		SETA0133 08/25/06						Beta:
08/28/2006 12:42	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
4 JDEM3-1-AA J6H290284-3-SAMP	2.00g,in		SETA0134 08/25/06						Beta:
08/28/2006 12:55	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
5 JDEM5-1-AA J6H290284-4-SAMP	2.01g,in		SETA0135 09/05/06						Beta:
08/28/2006 15:15	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
6 JDEM7-1-AA J6H290284-5-SAMP	2.05g,in		SETA0136 09/05/06						Beta:
08/28/2006 12:35	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
7 JDEM8-1-AA J6H290284-6-SAMP	2.06g,in		SETA0137 09/05/06						Beta:
08/28/2006 12:30	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
									Beta:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 7
Prep_SamplePrep v4.8.24

9/5/2006 11:02:01 AM		Sample Preparation/Analysis					Balance Id:1120373922		
108302, Fluor Hanford Inc Management Federal Servi		, Waste		CW Se-79 PrpRC5013, SepRC5043 TM Selenium-79 by Liquid Scint			Pipet #: _____		
AnalyDueDate: 09/05/2006				51 CLIENT: HANFORD			Sep1 DT/Tm Tech:		
Batch: 6242176 OTHER SOLID		pCi/g		PM, Quote: SA , 27045			Sep2 DT/Tm Tech:		
SEQ Batch, Test: None							Prep Tech: ,HansenM		
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 JDEM9-1-AA J6H290284-7-SAMP	2.06g,in		SETA0138 09/05/06						
08/28/2006 13:55	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
9 JDENC-1-AA J6H290284-8-SAMP	2.03g,in		SETA0139 09/05/06						Beta:
08/28/2006 12:50	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
10JDENE-1-AA J6H290284-9-SAMP	2.15g,in		SETA0140 09/05/06						Beta:
08/28/2006 12:57	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
11JDENF-1-AA J6H290284-10-SAMP	2.19g,in		SETA0141 09/05/06						Beta:
08/28/2006 13:05	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
12JDENG-1-AA J6H290284-11-SAMP	2.00g,in		SETA0142 09/05/06						Beta:
08/28/2006 13:05	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
13JDENJ-1-AA J6H290284-12-SAMP	2.13g,in		SETA0143 09/05/06						Beta:
08/28/2006 15:18	AmtRec: 60ML	#Containers: 1						Scr:	Alpha:
14JDFR8-1-AA-B J6H300000-176-BLK	2.00g,in		SETA0144 09/05/06						Beta:
08/28/2006 12:35	AmtRec:	#Containers: 1						Scr:	Alpha:
									Beta:
STL Richland Richland Wa.	Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailled Added	Page 2	ISV - Insufficient Volume for Analysis			WO Cnt: 14 Prep_SamplePrep v4.8.24			

9/5/2006 11:02:02 AM

Sample Preparation/Analysis

Balance Id:

CW Se-79 PrpRC5013, SepRC5043

Pipet #: _____

TM Selenium-79 by Liquid Scint

SI CLIENT: HANFORD

Sep1 DT/Tm Tech:

AnalyDueDate: 09/05/2006

Sep2 DT/Tm Tech:

Batch: 6242176

pCi/g

SEQ Batch, Test: None

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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15JDFR81-AC-BN

J6H300000-176-IBLK



08/28/2006 12:35

Amt/Rec:

#Containers: 1

Scr:

Alpha:

Beta:

16JDFR81-AD-BN

J6H300000-176-IBLK



08/28/2006 12:35

Amt/Rec:

#Containers: 1

Scr:

Alpha:

Beta:

Comments:

All Clients for Batch:
108302, Fluor Hanford Inc

Waste Management Federal Servi, SA , 27045

JDEML1AA-SAMP Constituent List:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

JDFR81AA-BLK:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

JDFR81AC-IBLK:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

JDFR81AD-IBLK:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

JDEML1AA-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JDFR81AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JDFR81AC-IBLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

JDFR81AD-IBLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____

Date: _____

9/11/2006 2:25:11 PM

ICOC Fraction Transfer/Status Report

ByDate: 9/11/2005, 9/16/2006, Batch: '6242176', User: 'ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting	Comments
6242176				
AC	CalcC	HansenM	8/30/2006 3:32:36 PM	
SC		HansenM	InPrep	8/30/2006 3:32:36 PM RICH-RC-5013 REVISION 5
SC		wagan	IsBatched	8/30/2006 3:46:27 PM ICOC_RADCALC v4.8.24
SC		HansenM	Prep1C	8/31/2006 3:32:56 PM RICH-RC-5013 REVISION 5
SC		HansenM	InPrep2	9/6/2006 9:48:25 AM RICH-RC-5013 REVISION 5
SC		HansenM	Prep2C	9/6/2006 9:48:43 AM RICH-RC-5013 REVISION 5
SC		ManisD	Sep1C	9/7/2006 5:28:57 PM RICH-RC-5043 REV 2
SC	DAWKINSO		InCnt1	9/7/2006 5:40:23 PM RICH-RD-0001 REVISION 3
SC		BlackCL	CalcC	9/11/2006 9:10:59 AM RICH-RD-0001 REVISION 3
AC		HansenM	8/31/2006 3:32:56 PM	
AC		HansenM	9/6/2006 9:48:25 AM	
AC		HansenM	9/6/2006 9:48:43 AM	
AC		ManisD	9/7/2006 5:28:57 PM	
AC	DAWKINSO		9/7/2006 5:40:23 PM	
AC		BlackCL	9/11/2006 9:10:59	

AC: Accepting Entity; SC: Status Change

STL Richland

Richtland Wa.

9/5/2006 11:36:58 AM

108302, Fluor Hanford Inc
Management Federal Servi

AnalyDueDate: 09/05/2006

Batch: 6242179 OTHER SOLID pCi/g
SEQ Batch, Test: None

Sample Preparation/Analysis

Balance Id:1120373922

, Waste

CW Se-79 PrpRC5013, SepRC5043
TM Selenium-79 by Liquid Scint
5I CLIENT: HANFORD

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: , HansenM

PRIORITY

PM, Quote: SA , 27045

STL RICHLAND

	Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1	JDENL-1-AA J6H290284-13-SAMP	2.09g,in		SETA0145 09/05/06						
2	08/28/2006 13:05 JDENL-1-AC-X J6H290284-13-DUP	AmtRec: 60ML		#Containers: 1				Scr:	Alpha:	Beta:
3	08/28/2006 13:05 JDENM-1-AA J6H290284-14-SAMP	2.10g,in		SETA0146 09/05/06				Scr:	Alpha:	Beta:
4	08/28/2006 13:18 JDENP-1-AA J6H290284-15-SAMP	AmtRec: 60ML		#Containers: 1				Scr:	Alpha:	Beta:
5	08/28/2006 13:20 JDENR-1-AA J6H290284-16-SAMP	2.07g,in		SETA0148 09/05/06				Scr:	Alpha:	Beta:
6	08/28/2006 15:30 JDENV-1-AA J6H290284-17-SAMP	AmtRec: 60ML		#Containers: 1				Scr:	Alpha:	Beta:
7	08/28/2006 13:30 JDEN1-1-AA J6H290284-18-SAMP	2.09g,in		SETA0150 09/05/06				Scr:	Alpha:	Beta:
	08/28/2006 13:35 AmtRec: 60ML			#Containers: 1				Scr:	Alpha:	Beta:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Prep_SamplePrep v4.8.24

U
C3

9/5/2006 11:36:59 AM

108302, Fluor Hanford Inc
Management Federal Servi
AnalyDueDate: 09/05/2006

, Waste

CW Se-79 PrpRC5013, SepRC5043
TM Selenium-79 by Liquid Scint
SI CLIENT: HANFORD

Balance Id:1120373922

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

Batch: 6242179 OTHER SOLID pCi/g
SEQ Batch, Test: None

PM, Quote: SA , 27045

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 JDEN4-1-AA J6H290284-19-SAMP	2.12g,in		SETA0152 09/05/06						
8 08/28/2006 13:46 J6H290284-20-SAMP	AmtRec: 60ML	#Containers: 1					Scr:	Alpha:	Beta:
9 JDEN6-1-AA J6H290284-21-SAMP	2.09g,in		SETA0153 09/05/06						
9 08/28/2006 15:35 J6H290284-22-SAMP	AmtRec: 60ML	#Containers: 1					Scr:	Alpha:	Beta:
10 JDEN7-1-AA J6H290284-23-SAMP	2.03g,in		SETA0154 09/05/06						
10 08/28/2006 14:02 J6H290284-24-SAMP	AmtRec: 60ML	#Containers: 1					Scr:	Alpha:	Beta:
11 JDEN9-1-AA J6H290284-25-SAMP	2.00g,in		SETA0155 09/05/06						
11 08/28/2006 14:05 J6H290284-26-SAMP	AmtRec: 60ML	#Containers: 1					Scr:	Alpha:	Beta:
12 12 JDDEPD-1-AA J6H290284-27-SAMP	2.18g,in		SETA0156 09/05/06						
12 08/28/2006 14:07 J6H290284-28-SAMP	AmtRec: 60ML	#Containers: 1					Scr:	Alpha:	Beta:
13 13 JDDEPF-1-AA J6H290284-29-SAMP	2.11g,in		SETA0157 09/05/06						
13 08/28/2006 15:07 J6H300000-179-BLK	AmtRec: 60ML	#Containers: 1					Scr:	Alpha:	Beta:
14 14 JDFTF-1-AA-B J6H300000-179-BLK	2.00g,in		SETA0158 09/05/06						
14 08/28/2006 13:05 J6H300000-179-BLK	AmtRec:	#Containers: 1					Scr:	Alpha:	Beta:

STL Richland
Richland Wa.Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

Prep_SamplePrep v4.8.24

9/5/2006 11:37:00 AM

Sample Preparation/Analysis

Balance Id:

STL RICHLAND
AnalyDueDate: 09/05/2006
Batch: 6242179 pCi/g
SEQ Batch, Test: None

CW Se-79 PrpRC5013, SepRC5043
TM Selenium-79 by Liquid Scint
SI CLIENT: HANFORD

Pipet #: _____

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech:

Work Order, Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
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16JDFTF-1-AC-BN

J6H300000-179-IBLK



08/28/2006 13:05	AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:
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16JDFTF-1-AD-BN

J6H300000-179-IBLK



08/28/2006 13:05	AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:
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Comments:

All Clients for Batch: 108302, Fluor Hanford Inc	Waste Management Federal Servi, SA , 27045
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UDENL1AA-SAMP Constituent List:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

UDFTF1AA-BLK:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

UDFTF1AC-IBLK:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

UDFTF1AD-IBLK:

Se-79 RDL:10 pCi/g LCL: UCL: RPD:

UDENL1AA-SAMP Calc Info:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

UDFTF1AA-BLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

UDFTF1AC-IBLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

UDFTF1AD-IBLK:

Uncert Level (#s): 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____

Date: _____

STL Richland

Key: In - Initial Amt, fl - Final Amt, dl - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 3

ISV - Insufficient Volume for Analysis

WO Cnt: 16

Richland Wa.

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailled Added

Prep_SamplePrep v4.8.24

9/11/2006 3:20:39 PM

ICOC Fraction Transfer/Status Report

ByDate: 9/11/2005, 9/16/2006, Batch: '6242179', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
6242179					
AC		CalcC	HansenM	8/30/2006 3:32:24 PM	
SC			HansenM	InPrep	8/30/2006 3:32:24 PM RICH-RC-5013 REVISION 5
SC			wagarr	IsBatched	8/30/2006 3:46:27 PM ICOC_RADCALC v4.8.24
SC			HansenM	Prep1C	8/31/2006 3:32:51 PM RICH-RC-5013 REVISION 5
SC			HansenM	InPrep2	9/6/2006 9:48:18 AM RICH-RC-5013 REVISION 5
SC			HansenM	Prep2C	9/6/2006 9:48:34 AM RICH-RC-5013 REVISION 5
SC			ManisD	Sep1C	9/7/2006 8:29:26 PM RICH-RC-5043 REVISION 2
SC			DAWKINSO	InCnt1	9/7/2006 8:39:13 PM RICH-RD-0001 REVISION 3
SC			BlackCL	CalcC	9/11/2006 9:10:46 AM RICH-RD-0001 REVISION 3
AC					
AC			HansenM	8/31/2006 3:32:51 PM	
AC			HansenM	9/6/2006 9:48:18 AM	
AC			HansenM	9/6/2006 9:48:34 AM	
AC			ManisD	9/7/2006 8:29:26 PM	
AC			DAWKINSO	9/7/2006 8:39:13 PM	
AC			BlackCL	9/11/2006 9:10:46	

AC: Accepting Entry, SC: Status Change

STL Richland
Richland Wa.

Page 1

Grp Rec Cnt: 7
ICOCFractions v4.8.18

STL RICHLAND